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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,281	03/25/2005	Seishi Miura	03500.017618	2011

5514 7590 07/26/2007
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EXAMINER

MACCHIAROLO, PETER J

ART UNIT	PAPER NUMBER
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2879

MAIL DATE	DELIVERY MODE
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07/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/529,281	Applicant(s) MIURA ET AL.	
	Examiner Peter J. Macchiarolo	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 May 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The reply filed on 05/02/2007 consists of changes to the specification and to the claims, and further, the reply consists of remarks related to the prior rejection of claims in the previous Office Action. The above have been entered and considered. However, pending claims 18-27 are not allowable as explained below.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 18-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 18, the clause, "a first and second light-emitting region of the electroluminescence device," is not clear. Does this indicate that each of Applicant's electroluminescence devices (i.e. one electroluminescence device being shown in figure 6A) has two different light emitting regions? The Examiner has turned to the drawings and specification to verify this limitation. It appears that each of Applicant's electroluminescence devices has only one light-emitting region, discussed in at least paragraph 94 of the published specification and shown as element number 17 in figures 5-6B.

For the purpose of examination, the Examiner interprets each electroluminescence devices has only one light-emitting region, and the first and second light emitting regions refer to

Art Unit: 2879

the light emitting region in the first electroluminescence device, and the light emitting region in the second electroluminescence device, respectively.

The remaining claims are rejected due to their dependency.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 18-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Fukuda (USPN 6541130; “Fukuda”).

Regarding claim 18, Fukuda discloses at least in figures 5 and 14, a multicolor light-emitting device comprising a plurality of organic electroluminescence devices (stacked B, G, and R devices) provided on a substrate (2), the plurality of organic electroluminescence devices emitting lights of different colors (see at least ABSTRACT), and each of the organic electroluminescence devices having at least; a first electrode (3) arranged on a side of reflecting light, a second electrode (5), opposed to the first electrode (3), arranged on a side of light emitted toward the exterior; an electroluminescence layer (4D) comprising an organic compound layer (4D) arranged between the first electrode (3) and the second electrode (5), and a first light-emitting region (fig. 5, interface between 43R and 44R) and second light-emitting region (fig. 5,

Art Unit: 2879

interface between 43G and 44G) of the first (R) and second (G) electroluminescence devices wherein (i) the first electrode (3) is closer to the substrate (2) than the second electrode (5), (ii) the first light-emitting region (interface between 43R and 44R) of the first electroluminescence device (R) which emits light of a color (red) having a longer wavelength is located at a position farther from the first electrode (3) in a thickness direction of the electroluminescence layer (43R) than the second light-emitting region (interface between 43G and 44G); and (iii) the second light-emitting region (interface between 43G and 44G) of the second electroluminescence device (G) emits light of a color (green) having a short wavelength is located at a position closer to the first electrode (3) in a thickness direction of the electroluminescence layer (43G) than the first light-emitting region (interface between 43R and 44R).

Regarding claim 19, Fukuda discloses in at least figures 1 and 5 the organic compound layer (4D) has at least a stacked structure in which the electroluminescence layer (4D) is sandwiched between a first charge-transporting layer (42a) and a second charge-transporting layer (44r), and the first charge-transporting layer (42a) is located on a side closer to the substrate (2) than the second charge-transporting layer (44r).

Regarding claim 20, Fukuda discloses in at least figures 1, 5, and 14 the electroluminescence layer (4D) that transports electrons on one side (top) of the light emitting region (10), while the other side (bottom) of the light emitting layer (4D) transports holes, the first charge-transporting layer (42a) is a hole transporting layer, and the second charge transporting layer (44r) is an electron transporting layer.

Regarding claim 21, Fukuda discloses in at least table 1 the thickness of the light-emitting layer (PC-7) is in a range of 10 to 35 nm.

Regarding claim 22, Fukuda discloses in at least figures 5 and 14 a material and a thickness of the first charge-transporting layer (44a) are the same as those for all of the organic electroluminescence devices (see at least col. 6, ll. 34-45).

Regarding claim 23, Fukuda discloses in at least figures 5, 14-16, and col. 11 line 21 to col. 12 line 17 a distance $da1$ (D) from the first electrode (5) to the light-emitting region (10) of one organic electroluminescence device (1) is a distance obtained by the following equation:

$$n1 da1 = \frac{\lambda a}{4} (1 + 2i); \quad i = 0, 1, 2, \dots$$

wherein $n1$ denotes a refractive index of the first charge-transporting layer, and λa denotes a peak emission wavelength of the one organic electroluminescence device.

Regarding claim 24, Fukuda discloses in at least figures 5, 14-16, and col. 10 line 39 to col. 11 line 21 a distance $db1+db3$ ($d_{org} = D$) from the first electrode (5) to the light-emitting region (10) of one organic electroluminescence device (1) is a distance obtained by the following equation:

$$nb1(db1) + nb3(db3) = \frac{\lambda b}{4} (1 + 2i); \quad i = 0, 1, 2, \dots$$

wherein $nb1$ denotes the $n1$, $db1=da1$, $nb3$ denotes a refractive index of the light-emitting layer of the one organic electroluminescence device, $db3$ denotes a thickness of the light-emitting layer of one organic electroluminescence device, and λb denotes a peak emission wavelength of the one organic electroluminescence device.

Regarding claim 25, Fukuda discloses in at least figures 5 one organic electroluminescence device (specifically, the stack of 3, 42a, 42R, 43R, 44R, and 5) is an organic electroluminescence device which emits red light.

Regarding claim 26, Fukuda discloses in at least figure 5 the plurality of organic electroluminescence devices (1) are at least three organic electroluminescence devices (1) which emits red (R), green (G) and blue (B) light, respectively.

Regarding claim 27, Fukuda discloses in at least figures 5 and col. 1, ll. 7-16, a display having the multicolor light-emitting device according to claim 18.

Response to Arguments

Applicant's arguments with respect to claim have been considered but are moot in view of the new ground(s) of rejection.

The Examiner notes that in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., individual light emitting regions which emit light of different colors are changed

Art Unit: 2879

within an electroluminescence layer in a thickness direction thereof) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375. The examiner can normally be reached on 8:30 - 5:00, M-F.

Art Unit: 2879

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571) 272-2475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'PM' or similar, located on the left side of the page.

NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800